



Manual 23

Transmission Expansion and Interconnection Manual

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involved in the study that need the steady state and/or short circuit base cases must request the base cases from the NYISO following the NYISO CEII request procedures. A CEII Request Form and NDA are available from the NYISO website and can be accessed via the Interconnection Projects portion of the website. As soon as practicable after completion of the initial draft of the OFES report, NYISO will provide the draft study report to the Transmission Developer, CTO(s) and any Affected System Operators for review and comment, and coordinates the review process. Upon completion of the review process, NYISO arranges and holds an OFES report meeting with the Transmission Developer, CTO(s) and any Affected System Operators to discuss the results of the OFES per Section 22.7.3 of Attachment P.

After completion of the OFES, NYISO initiates final accounting and settlement billing of the NYISO and CTO(s) actual study costs with the Transmission Developer in accordance with Section 22.7.1 of Attachment P and the OFESA.

2.3.3.4. System Impact Study (SIS)

Upon completion of the OFES (or if the Transmission Developer elects to forego an OFES), the next step is the SIS. Unlike the OFES, the NYISO committees (TPAS and OC) are involved in the SIS through the review and approval of the SIS Scope, and the review and approval of the SIS report. OC review and approval of the SIS satisfies the requirements of Section 18.02 of the ISO Agreement.

The purpose and objectives of the SIS are to: evaluate the feasibility of the proposed interconnection (consistent with Section 22.7.2 of Attachment P if feasibility was not evaluated or not fully evaluated in an OFES), evaluate the impact of the project on the pre-existing electric system and interface transfer capability, determine whether the project triggers the need for any Network Upgrade Facilities, and if so, develop a list of the Network Upgrade Facilities that would be required along with nonbinding good faith estimates of the cost responsibility and time to construct those facilities. The SIS evaluates the impact of the project in accordance with the NYISO Transmission Interconnection Standard per Section 22.6.4 of Attachment P, which involves conducting thermal, voltage, stability and short circuit analyses, as well as a transfer limit analysis to determine whether the Transmission Project degrades interface transfer capability by more than 25 MW (a degradation of interface transfer capability by more than 25 MW is considered unacceptable under the Transmission Interconnection Standard). The SIS also may include various “special studies” (e.g., Electro-Magnetic Transients (EMT) study, Sub-Synchronous Resonance (SSR) study, etc.) as considered appropriate for the type and circumstances of the Transmission Project and its interconnection to the system.

If one or more alternative Point(s) of Interconnection configurations were evaluated in the OFES, the Developer must designate which configuration is to be evaluated in the SIS. Only one Point(s) of Interconnection configuration may be evaluated in the SIS.

The process for performing the SIS is outlined in Section 22.8 of Attachment P to the NYISO OATT. The basic steps are:

- Preparation, tender and execution of the SIS Agreement (SISA);
- In conjunction with the SISA, preparation, review and OC approval of the study scope of work (SIS Scope);
- Performance of the study, including completion of all required tasks and review of the study report and documentation by the Parties and any Affected System Operators;
- The study report meeting between the Parties (NYISO, CTO(s), and Developer) and any Affected System Operators;
- Presentation of the SIS report to the TPAS for review, followed by presentation of the SIS report to the OC for approval.

As soon as practicable after receiving the Transmission Developer's election in the Scoping Meeting to proceed with an SIS, or simultaneously with the delivery of an OFES to the Transmission Developer, NYISO prepares and tenders the SISA to the Transmission Developer and the CTO(s) and provides a nonbinding good faith estimate of the cost and time to complete the SIS in accordance with Section 22.8.1 of Attachment P. In conjunction with the SISA, NYISO prepares the scope of work for the study ("SIS Scope") consistent with Section 22.8.3 of Attachment P. NYISO first issues a draft SIS Scope to the Parties and any Affected System Operators for review and comment. (During preparation of the SIS Scope, the Parties may discuss whether any "special studies" should be performed for the Transmission Project, and if so, whether to perform such studies as part of the SIS, or at a later step of the process – either in the Facilities Study, or included as part of the engineering studies that may be performed under the Transmission Project Interconnection Agreement. NYISO will seek to reach mutual agreement among the Parties on whether and what special studies to include in the SIS Scope. However, in the event of failure to reach mutual agreement among the Parties on this, or any aspect of the SIS Scope, may be brought up to TPAS and/or the OC as appropriate.)

After review by the Parties and any Affected System Operators, NYISO submits the SIS Scope to TPAS for review, then to the OC for approval.

The Transmission Developer, NYISO and CTO(s) are required to execute and deliver the SISA to NYISO within thirty (30) Calendar Days after NYISO tenders the SISA. The Transmission Developer is required to provide a study deposit of either \$40,000 (if the Transmission Developer is hiring a third-party consultant to perform the analytical portions of the study) or \$120,000 (if NYISO is responsible for performing the entire study) to the NYISO on or before return of the executed SISA. The Transmission Developer also must provide the technical data required by the SISA to the NYISO on or before return of the executed SISA. The procedures related to any failure of the Transmission Developer to meet the requirements related to

execution of the SISA are described in Section 22.8.2 of Attachment P.

After the SISA has been fully executed by the Parties and the OC has approved the SIS Scope, the responsible Parties proceed to perform the SIS in accordance with Section 22.8.4 of Attachment P, the SISA, and the approved SIS Scope. NYISO serves as the overall coordinator for the study, including coordination of review of the draft SIS report and associated documentation by the Parties and any Affected System Operators. NYISO prepares the initial steady state, short circuit and dynamic base cases to be used for the SIS following the requirements outlined in Section 22.6.1 of Attachment P and the SIS Scope. Other parties involved in the study that need the steady state, short circuit and/or dynamic base cases must request the base cases from the NYISO following the NYISO CEII request procedures. A CEII Request Form and NDA are available from the NYISO website and can be accessed via the Interconnection Projects portion of the NYISO website.

As soon as practicable after completion of the initial draft of the SIS report, NYISO will provide the draft study report to the Transmission Developer, CTO(s) and any Affected System Operators for review and comment, and coordinates the review process. Upon completion of the review process, NYISO arranges and holds a study report meeting with the Transmission Developer, CTO(s) and any Affected System Operators to discuss the results of the SIS per Section 22.8.5 of Attachment P.

Following the study report meeting, NYISO arranges for submittal of the SIS report to TPAS for review and consideration for recommendation for OC approval. If the SIS was not performed by NYISO staff, NYISO staff prepares and submits a “NYISO Review Report” to accompany the SIS report, to summarize NYISO staff’s review and conclusions regarding the SIS. Following TPAS review, NYISO arranges for submittal of the SIS report to the OC for consideration for approval. Upon OC approval of the SIS, the SIS for that project is considered to be completed.

After OC approval of the SIS, NYISO initiates final accounting and settlement billing of the NYISO and CTO(s) actual study costs with the Transmission Developer in accordance with Section 22.8.1 of Attachment P and the SISA.

2.3.3.5. Facilities Study

At any time following OC approval of the SIS, the Transmission Developer may initiate the next step of the TIP by requesting the NYISO to tender a Facilities Study Agreement for its Transmission project. The NYISO committees (TPAS and the OC) are not involved in the Facilities Study.

The purpose of the Facilities Study, per Section 22.9.3 of Attachment P to the NYISO OATT, is to update and refine the description of Network Upgrade Facilities identified in the SIS, including the equipment, work and related cost and time estimates necessary to construct the required Network Upgrade Facilities.

If not performed in the SIS, the Facilities Study may include various “special studies” (*e.g.*, Electro-Magnetic Transients (EMT) study, Sub-Synchronous Resonance (SSR) study, etc.) as considered appropriate for the type and circumstances of the Transmission Project and its interconnection to the system. To the extent the NYISO or Connecting Transmission Owner determine, in accordance with Good Utility Practice, that such studies need to be performed after the Facilities Study, the Transmission Developer will be responsible for the study costs for such studies and any upgrade costs resulting from such studies, to the extent consistent with Attachment P. The Facilities Study also will provide a nonbinding estimate as to the feasible TCCs resulting from the construction of the new facilities, as applicable. Transmission Developer will be responsible for posting Security in the amount of the cost estimates for the Network Upgrade Facilities documented in the final Facilities Study report pursuant to Section 22.11.1 of Attachment P.

The process for performing the Facilities Study is outlined in Section 22.9 of Attachment P. The basic steps are:

- Preparation and execution of the Facilities Study Agreement (FSA);
- In conjunction with the FSA, preparation and review of the study scope of work by the Parties and any Affected System Operators;
- Performance of the study, including completion of all required tasks and review of the study report and documentation by the Parties and any Affected System Operators; and
- The study report meeting between the Parties (NYISO, CTO(s), and Developer) and any Affected System Operators.

As soon as practicable after receiving the Transmission Developer’s request to proceed with a Facilities Study, NYISO prepares and tenders the FSA to the Transmission Developer and the CTO(s) and provides a nonbinding good faith estimate of the cost and time to complete the study in accordance with Section 22.9.1 of Attachment P. In conjunction with the FSA, NYISO prepares the scope of work for the study (“FS Scope”) consistent with Section 22.9.3 of Attachment P (and, if applicable, including any special studies as described above). NYISO first issues a draft FS Scope to the Parties and any Affected System Operators for review and comment, then issues the final FS Scope to those parties.

The Transmission Developer, NYISO and CTO(s) are required to execute and deliver the FSA to the NYISO within thirty (30) Calendar Days after NYISO tenders the FSA. The Transmission Developer is required to provide a study deposit of \$100,000 to the NYISO on or before return of the executed FSA. The Transmission Developer also must provide the technical data required by the FSA to the NYISO on or before return of the executed FSA. The procedures related to any failure of the Transmission Developer to meet the requirements related to execution of the FSA are described in Section 22.9.2 of Attachment P.

After the FSA has been fully executed by the Parties, the responsible Parties proceed to perform the

Facilities Study in accordance with Section 22.9.4 of Attachment P, the FSA, and the approved FS Scope. NYISO serves as the overall coordinator for the study, including coordination of review of the draft Facilities Study report and associated documentation by the Parties and any Affected System Operators.

As soon as practicable after completion of the initial draft of the Facilities Study report, NYISO will provide the draft study report to the Transmission Developer, CTO(s) and any Affected System Operators for review and comment, and coordinates the review process. Upon completion of the review process, NYISO arranges and holds a study report meeting with the Transmission Developer, CTO(s) and any Affected System Operators to discuss the results of the Facilities Study per Section 22.9.5 of Attachment P.

Billing of study costs for the Facilities Study is performed in accordance with Section 22.9.1 of Attachment P and the FSA, and works differently than for an OFES or SIS. During the course of the Facilities Study, NYISO holds the \$100,000 study deposit on account and invoices the Transmission Developer on a monthly basis for NYISO and CTO(s) study costs. After completion of the Facilities Study and after all outstanding invoices for study work for the project have been received by NYISO, NYISO initiates final accounting and settlement billing of NYISO and CTO(s) actual study costs with the Transmission Developer and refunds the study deposit, or any unspent portion thereof, as part of the final billing.

2.3.3.6. Engineering & Procurement (“E&P”) Agreement

Prior to executing a Transmission Project Interconnection Agreement, a Transmission Developer may request and the CTO(s) shall offer the Transmission Developer, an E&P Agreement that authorizes the CTO(s) to begin engineering and procurement of long lead-time items necessary for the establishment of the interconnection per Section 22.10 of Attachment P to the NYISO OATT. E&P Agreements are optional. NYISO is not a party to such agreements.

2.3.3.7. Transmission Project Interconnection Agreement

After completion of the Facilities Study, the next step of the TIP is to develop, negotiate, and execute a Transmission Project Interconnection Agreement (TPIA) in accordance with Section 22.11 of Attachment P to the NYISO OATT. However, a TPIA is not required if a Transmission Developer’s proposed Transmission Project is only interconnecting to its own, existing facilities.

Attachment P contains provisions regarding the TPIA as follows:

- Section 22.11.1 Tender
- Section 22.11.2 Negotiation
- Section 22.11.3 Execution and Filing
- Section 22.11.4 Commencement of Interconnection Activities
- Section 22.11.5 Termination of the TPIA

Besides identification and cost allocation of interconnection facilities for proposed interconnections, the interconnection process is also the mechanism for facility owners or developers to request and obtain Capacity Resource Interconnection Service (CRIS) for facilities that meet other eligibility requirements, but are required to undergo evaluation of deliverability. This process is further described in this Section 3 of the manual. Also, Attachment C of this manual provides a summary on acquisition of CRIS Rights.

3.2. What is an Interconnection?

In the context of this manual, an interconnection refers to the connection of a new Generating Facility, Class Year Transmission Project, or Load to the NYS Transmission System; or to materially increase the capacity of, or make a material modification to the operating characteristics of, an existing Generating Facility (including a BTM:NG Resource) or Class Year Transmission Project that is interconnected to the NYS Transmission System or Distribution System (*see* definition of “Interconnection Request” and related capitalized terms in Attachment X and Attachment Z to the NYISO OATT).

Note that the OATT contains a definition of a term, Interconnection or Interconnection Points (“IP”) that refers to NYCA tie lines, which is different than the term used in the above OATT references and this manual.

3.3. Large Facility Interconnection Procedures (LFIP)

3.3.1. Basic Information about the LFIP

3.3.1.1. What projects are subject to the LFIP?

All new Large Generating Facilities and Class Year Transmission Projects that are proposed to interconnect to the NYS Transmission System or Distribution System are subject to the LFIP. Also, projects that materially increase the capacity of an existing Large Generating Facility or Class Year Transmission Project that is interconnected to the NYS Transmission System or Distribution System, or to make a material modification to the operating characteristics of such Large Facilities, also are subject to the LFIP (*see* Section 30.3.1 of Attachment X to the NYISO OATT).

In addition to the above general requirement, there are additional rules for determining when a Large Facility Interconnection Request or a separate Large Facility Interconnection Request is required under certain circumstances as follows (*see also* Section [3.3.4](#) of this manual, re: Materiality Determinations):

- Material capacity increase to an existing Large Facility – The threshold for a material increase in the capacity of a Large Facility is the greater of 10 MW or 5% of the Large Facility’s existing ERIS level. In determining whether an increase in capacity falls under the Large Facility or Small Generator procedures, the NYISO reviews the total capacity of the generating facility after the increase. If the resultant capacity is greater than 20 MW, the capacity increase falls under the LFIP. If the resultant capacity is 20 MW or less, the capacity increase does not fall

under the LFIP but may fall under the Small Generator procedures (*see* Sections 3.3.4 and 3.4 of this manual).

- Material modification to an existing Large Facility (*see* Section 3.3.4 of this manual)
- Reactivation of a Retired Facility (*see* Section 3.3.4 of this manual and Section 30.3.1 of Attachment X)
- Modifications to an existing Interconnection Request (*see* Section 3.3.4 of this manual)
- Multiple sites, Points of Interconnection, and different voltage levels.

When a Developer proposes multiple sites for a project, Section 30.3.1 of Attachment X requires the Developer to submit a separate Interconnection request for each site. “Site,” as the term is used in Section 30.3.1 of Attachment X, refers to the property where a proposed new Large Facility will be constructed, or the location of an existing Large Facility proposed to be modified. “Point of Interconnection,” as defined in Section 30.1 of Attachment X, means “the point . . . where the Attachment Facilities [associated with a proposed Large Facility] connect to the New York State Transmission System or to the Distribution System.” A Developer may submit multiple Interconnection Requests for a single site; however, Developers must specify whether the Interconnection Requests are alternative projects of each other.

A Developer proposing to interconnect a Large Generating Facility located at two or more different voltage levels at one site would need to submit a separate Interconnection Request for each different voltage level unless the Large Generating Facility, as it proposes to interconnect, includes either (1) a 3-winding transformer with the potential to connect to two different voltage level lines simultaneously, or (2) a combined cycle with a generator turbine and steam turbine connected at two different voltage levels.

A new Large Generating Facility with multiple Points of Interconnection (POIs) may be evaluated under one Interconnection Request provided that the proposed POIs are in reasonable proximity to each other. New Class Year Transmission Projects are more likely to have multiple POIs at different voltage levels and, therefore, may be evaluated under one Interconnection Request as long as the Interconnection Request involves a single defined project. Interconnection to separate bus sections of the same substation, or interconnection to both circuits of a double circuit line, are examples of multiple POIs allowed to be evaluated under a single Interconnection Request.

Alternative POIs are different than multiple POIs. Alternative POIs are mutually exclusive alternative interconnection proposals for the same project. A Developer may identify a reasonable number of alternative POI(s) to be evaluated under a single Interconnection Request, provided that they are consistent with the project site specified in the LFIR (*see* Sections 30.6.1 and 30.10 of Attachment X). However, the Developer can ultimately choose only one alternative to proceed to an interconnection

Facilities Study. A Developer may also submit separate Interconnection Requests to evaluate alternative POIs for the same project.

3.3.1.2. Types of Interconnection Service

Per Section 30.3.2 of Attachment X, NYISO offers two types of interconnection service:

- Energy Resource Interconnection Service (ERIS)
- Capacity Resource Interconnection Service (CRIS)

Developers of proposed interconnection projects must elect ERIS at a minimum to proceed with the evaluation of their projects, but have the option to take CRIS, partial CRIS, or no CRIS. ERIS allows projects to interconnect and participate in the NYISO energy and ancillary services markets, but not the capacity market. CRIS (or partial CRIS) allows projects to participate in the NYISO capacity market.

To receive ERIS, a proposed Large Facility must go through the required interconnection studies, including the Class Year Facilities Study, accept its Project Cost Allocation for System Upgrade Facilities (SUFs), and pay cash or post Security for those costs. The proposed facility will be evaluated at the Large Facilities' full output (*i.e.*, maximum net injection at the POI), unless the Developer requests ERIS below the full capability of the Large Facility. When the ERIS is below the full capability of the Large Facility due to the use of a control system, power relays, or other similar device settings or adjustments, the Developer must obtain NYISO's and Connecting Transmission Owners' agreement that the manner in which the capability of the Large Facility will be limited will not adversely affect the safety and reliability of the New York State Transmission System (or Distribution System as applicable) (*see* Section 30.3.2.3 of Attachment X). Nevertheless, under certain circumstances, NYISO and/or CTO(s) can require the Interconnection Request to be studied at the facility's full capability (*see* Section 30.3.2.3 of Attachment X).

To receive CRIS, a Large Facility must additionally go through the Class Year Deliverability Study or an Expedited Deliverability Study, accept its determined Deliverable MWs and/or accept its Project Cost Allocation for System Deliverability Upgrades (SDUs), and pay cash or post Security for those costs, as applicable (*see* Attachment S to the NYISO OATT). Details on the maximum amount CRIS that a Developer can request is set forth in Section 25.8.1 of Attachment S to the NYISO OATT.

3.3.1.3. What costs are involved?

The costs involved in the NYISO LFIP process include:

- \$10,000 nonrefundable application fee;
- Various deposits that are applied toward study costs (*see* Figure 2 below);
- The NYISO's and the CTO's actual study costs for each of the interconnection studies, including the cost allocation for the Class Year Facilities Study costs (typically around \$300,000 in total per project, but can vary widely for individual projects);

- Project Cost Allocation for SUFs and allocated Headroom payments for SUFs, as applicable (if project goes forward with ERIS);
- Project Cost Allocation for SDUs and Headroom payments for SDUs, as applicable (if project goes forward with CRIS).

Figure 3: Fees/Deposits Associated with the NYISO LFIP

Process Step	Fees/Deposits	When Required	Applied Toward
Interconnection Request	\$10,000 application fee; \$10,000 optional deposit in lieu of Site Control (2)	With the IR	Optional Feasibility Study or SRIS
Optional Feasibility Study (1)	\$10,000 or \$60,000 deposit as applicable (3)	Within fifteen (15) Business Days after Developer's receipt of the NYISO's good faith estimate of the study costs	Optional Feasibility Study
SRIS (1)	\$40,000 or \$120,000, as applicable (4)	Within fifteen (15) Business Days after Developer's receipt of the NYISO's good faith estimate of the study costs	SRIS
Class Year Facilities Study	\$100,000 or \$50,000 as applicable; deposit in lieu of regulatory milestones, as applicable (5)	With return of the completed, but unsigned, Class Year Study Agreement	Facilities Study
<p>Notes:</p> <p>(1) Developer shall advise NYISO whether it elects to proceed with the SRIS within five (5) Business Days after either the delivery of the final Optional Feasibility Study report to the Developer or the Scoping Meeting, if the Developer opts to forego the Optional Feasibility Study.</p> <p>(2) Developer may opt to pay an additional \$10,000 deposit with the IR in lieu of demonstration of Site Control. This deposit is applied toward the Optional Feasibility Study or toward the SRIS if the Optional Feasibility Study is foregone.</p> <p>(3) A \$10,000 study deposit is required for limited analyses, while a \$60,000 study deposit is required for detailed analyses.</p> <p>(4) A \$120,000 study deposit is required if NYISO is responsible for performing the entire study. A \$40,000 study deposit is required if the Developer hires a consultant to perform the analytical portion of the study.</p> <p>(5) A \$100,000 study deposit is required if Developer seeks evaluation of ERIS only, or ERIS and CRIS, for its Class Year Project. A \$50,000 study deposit is required if the Developer is seeking evaluation of CRIS only for its Class Year Project. For a Developer that wishes to enter a Class Year Study, but that has not yet met an applicable regulatory milestone or obtained a qualifying contract, an additional 2-part deposit in lieu of a regulatory milestone is required: \$100,000 (at risk) deposit plus \$3,000/MW (fully refundable deposit).</p>			

3.3.1.4. How long does it take?

The time frames for NYISO to meet its obligations under the LFIP are outlined in Attachments X and S to the NYISO OATT, and summarized in the table in Attachment D of this manual. The overall time to complete the interconnection studies and execute an Interconnection Agreement can vary significantly

based on the unique circumstances of individual projects and the Developer will receive a good faith estimated timeframe for completion of the study.

The NYISO also posts quarterly study metrics on its publicly accessible website (www.nyiso.com) under “Interconnection Process” > “Quarterly Reports” consistent with the requirements under Order No. 845 and Order No. 845-A and Section 30.3.4.4 of Attachment X to the NYISO OATT. Developers can review those postings to inform their expectations about how long an interconnection study may take based on the NYISO’s completion of past studies.

3.3.1.5. Who is involved in the process?

The Developer, NYISO and CTO(s) are the primary parties involved throughout the interconnection process. Each of the parties may hire consultants or other third parties to perform or assist in parts of the studies for which the party is responsible. The NYISO TPAS and OC are involved in the System Reliability Impact Study (SRIS) and Class Year Facilities Study steps of the process. SRIS scopes and SRIS reports must be approved by the OC. OC approval also is required for (a) the Class Year Facilities Studies, which include the Annual Transmission Baseline Assessment (ATBA), Annual Transmission Reliability Assessment (ATRA), and the Deliverability Study (ATBA-D and ATRA-D) for each Class Year Study, and (b) the Expedited Deliverability Studies. TPAS reviews each of those items prior to submittal to the OC. The Interconnection Projects Facilities Study Working Group (IPFSWG) is involved in the Class Year Study process.

The Developer and CTO(s) are the primary parties involved in the construction phase of the process. If applicable, Affected System Operators also may be involved in the construction phase. NYISO is not involved in the construction of interconnection facilities, except to approve extensions of the Commercial Operation Date, as permitted by Section 32.1.3.2 of Attachment Z to the OATT and Section 30.4.4.5 of Attachment X to the OATT; coordinate revisions to the Interconnection Agreement, as needed; and approve certain related scheduled outages as may be required.

Developers must register any new facilities with NYISO in advance of going in service, even for testing. The registration process should be initiated at least 6 months in advance of the anticipated in-service date by contacting Customer.Registration@nyiso.com. The Developer, NYISO and applicable TO(s) must coordinate arrangements for initial operation of the new facilities.

3.3.2. Large Facility Interconnection Request

A Developer proposing to interconnect a new Large Facility to the NYS Transmission System or Distribution System, or materially increase the capacity of, or make a material modification to an existing Large Facility, must submit an Interconnection Request to the NYISO in the form of Appendix 1 of the LFIP,

along with the required \$10,000 non-refundable application fee and either demonstration of Site Control, or an additional \$10,000 deposit in lieu of demonstration of Site Control. See Section 30.3 of Attachment X to the NYISO OATT regarding Interconnection Requests. The \$10,000 deposit in lieu of a demonstration of Site Control is refundable if the Developer demonstrates Site Control to the satisfaction of the NYISO within the ten (10) Business Day cure period; otherwise, such deposit is non-refundable. If the deposit is non-refundable, the Developer still must adequately demonstrate Site Control before the commencement of the SRIS consistent with Section 30.7.2 of Attachment X to the NYISO OATT; however, the \$10,000 deposit in lieu of demonstration of Site Control is not refundable if the Developer demonstrates Site Control after the ten (10) Business Day cure period during the Interconnection Request validation process.

Section 30.3.3.1 lists the basic requirements for a valid Interconnection Request. Note that the proposed Commercial Operation Date (COD) provided with the Interconnection Request cannot be more than ten (10) years beyond the date the Interconnection Request is received by the NYISO. However, extensions of the COD may be allowed later in the process per Section 30.4.4.5 of Attachment X.

The form for a Large Facility Interconnection Request is available from the NYISO website. To fill out and submit a Large Facility Interconnection Request, a Developer should use NYISO's "Interconnection Projects Community Portal," as discussed in Section 1.2 of this manual.

3.3.3. Basic Steps of the LFIP

The steps of the LFIP are described in Attachment X to the NYISO OATT and summarized in the table in [Attachment K](#) of this manual. The steps of the process are described in more detail in the following sections.

3.3.3.1. Initial Processing of a New Interconnection Request

Upon receipt of a new Large Facility Interconnection Request (LFIR), NYISO performs the following initial processing steps within the first ten (10) Business Days after receipt of the LFIR. Within five (5) Business Days of receipt of the LFIR, NYISO sends an acknowledgement notice to the Developer and provides a copy of the LFIR to the CTO—*i.e.*, the TO with whose system the project is proposed to interconnect; provided, however, that NYISO will not forward an LFIR that was submitted for a proposed project subject to the NYISO's competitive selection process under Attachment Y until the close of the applicable solicitation window. In some cases, the NYISO will identify on a preliminary basis which TO will be the CTO if it is unclear from the LFIR, subject to later confirmation or correction. NYISO assigns the new LFIR a Queue Position based on the date and sequence it was received per Section 30.4.1 of Attachment X to the NYISO OATT.

Within ten (10) Business Days of receipt of the LFIR, NYISO performs an initial review of the LFIR and determines whether it is valid (*i.e.*, satisfies the requirements of an LFIR per Sections 30.3.1 and 30.3.3.1 of Attachment X). If the LFIR is determined to be deficient, NYISO sends a deficiency notice to the Developer, giving the Developer an opportunity to cure the deficiency per Section 30.3.3.3 of Attachment X. If the deficiency is cured within the ten (10) Business Days cure period, the LFIR is deemed valid by NYISO and proceeds through the interconnection process. If not, NYISO may initiate withdrawal of the LFIR under Section 30.3.6 of Attachment X.

After NYISO has determined an LFIR to be valid, NYISO provides an acknowledgement of this determination to the Developer and CTO(s), and schedules a Scoping Meeting with the Developer and CTO(s), which will normally be held within 30 Calendar Days of receipt of the LFIR.

3.3.3.2. Scoping Meeting

After the initial processing has been completed, NYISO holds a Scoping Meeting with the Developer and CTO per Section 30.3.3.4 of Attachment X to the NYISO OATT, which is the first formal meeting between the Parties in the interconnection process. In practice, Scoping Meetings generally are held via teleconference, as are most of the meetings in the process. The purpose of the Scoping Meeting is to reinforce the roles and responsibilities of all parties in the interconnection process, to discuss the interconnection options for the proposed project, to exchange information regarding the project and the local transmission system to which the project may interconnect, to identify the potential feasible Points of Interconnection (POIs), and to discuss whether the Developer wishes to proceed with an Optional Feasibility Study.

With respect to the roles and responsibilities of the parties, throughout the interconnection process, the Developer must provide required technical data and cure any deficiencies in such data identified by the NYISO, CTO(s) or Affected System Operator(s). The Developer must also be responsive to requests for information from the NYISO, CTO(s) and Affected System Operator(s) related to the interconnection studies.

In order to expedite the interconnection studies, the Developer should submit a CEII Request Form to the NYISO and execute a CEII NDA prior to the Scoping Meeting. These documents are available from the NYISO website and can be accessed via the Interconnection Projects portion of the website. Certain CTO(s) or Affected System Operators may also require NDAs, and the Developer should also execute any NDAs required by the CTO(s) or Affected System Operators. For projects whose CTO is ConEd, the Developer should contact ConEd immediately after validation of its Interconnection Request to request the necessary NDA documents.

Coordination with the CTO(s) and Affected System Operators is critical and requires input and analyses at each study stage. At the Scoping Meeting, the CTO(s) and Affected System Operators need to be prepared to provide the following information:

- Relevant Transmission Information/Technical Data and Issues,
- General Facility Loadings,
- General Stability Issues,
- General Short Circuit Issues,
- General Voltage Issues,
- General Reliability Issues, and
- General System Protection Issues.

The above information is necessary to have available at the Scoping Meeting in order to discuss the following issues related to the project's proposed interconnection:

- POI station configuration;
- Known POI physical constraints including potential access points for Project feed;
- CTO's design standards for the POI—*e.g.*, three breaker ring will be required or the project will have to build a whole new breaker-and-a-half bay if an existing one is not available;
- Line and substation equipment ratings;
- Typical line loading levels near POI;
- Existing protection at POI, if known;
- Known issues related to system reliability and deliverability—thermal, voltage, short circuit, etc.;
- Discussion of other possible POIs that the Developer did not identify but the CTO believes would be advantageous to the project; and
- Design requirements for developers equipment—*e.g.*, transformer configuration.

By discussing the above information at the Scoping Meeting, the Developer can gain an understanding of which POIs are worth studying further and, therefore, can avoid costly and unnecessary detailed studies

Upon conclusion of the Scoping Meeting, the Developer must advise (within five (5) Business Days after the Scoping Meeting) whether it elects to forego the Optional Feasibility Study and proceed directly to a SRIS. The NYISO will determine which party or parties will perform the study, or various portions of the study and will tender any required study work agreements. However, if the Developer elects to forego the Optional Feasibility Study, certain evaluations that would have been required in the Optional Feasibility Study will need to be addressed in the SRIS. The Developer electing to evaluate alternative Point(s) of Interconnection must proceed through an Optional Feasibility Study.

NYISO has overall responsibility for the performance of all interconnection studies under the LFIP, and may elect to perform all or portions of any given study. However, Section 30.13.4 of Attachment X gives NYISO discretion to request the CTO(s) to perform all or portions of a study, or to utilize a third party (*e.g.*,

an engineering consultant) to perform all or portions of a study. In considering using a third party, either NYISO or the Developer may enter into the third party contract, at the NYISO's discretion. The various options for performing the interconnection study for a new LFIR are discussed at the Scoping Meeting.

The Parties may reach agreement on some or all options required to proceed forward with the interconnection study at the Scoping Meeting. However, if agreement has not been reached on all options, the Developer must provide their decisions or proposals on any outstanding issues to the NYISO within five (5) Business Days following the Scoping Meeting. Upon receipt of the Developer's input, NYISO will begin preparation of the applicable study.

3.3.3.3. Optional Interconnection Feasibility Study (Optional Feasibility Study or OFES)

The purpose and objectives of the OFES are to: develop a conceptual design for the proposed interconnection, evaluate the impact of the project on the pre-existing electric system at and in electrical proximity to the POI, preliminarily identify the CTO Attachment Facilities (CTOAFs) and any SUFs that would be required to interconnect the project to the system in a reliable manner, and develop nonbinding good faith estimates of the cost and time to construct the required facilities. The Developer may request evaluation of one or a limited number of alternative POIs in the same OFES but that must be specified within five (5) Business Days following the Scoping Meeting via email to icpc@nyiso.com.

The process for performing the OFES is outlined in Section 30.6 of Attachment X to the NYISO OATT. The basic steps are:

- Preparation of scope and CTO(s) signature;
- Performance of the study, including completion of all required tasks and review of the study report and documentation by the Parties; and
- The study report meeting.

Under Section 30.6.2 of Attachment X, the OFES is a preliminary evaluation of the impact of the project and its proposed interconnection on the pre-existing electric power system. The OFES evaluates ERIS only and does not evaluate CRIS. However, the Developer may opt for NYISO to perform a preliminary deliverability evaluation of CRIS in the SRIS step (*see* Section 3.3.3.4 below), but normally CRIS is evaluated at the Facilities Study step only (*see* Section [3.3.3.6](#) below). The OFES includes steady state analysis and short-circuit analysis, but does not include stability analysis. (Stability analysis is performed at the SRIS and Facilities Study steps described in more detail below.)

In accordance to Section 30.6.1 of Attachment X, within five (5) Business Days after the Scoping Meeting, the Developer advises NYISO whether it elects to proceed with an OFES. The Developer shall specify the Point(s) of Interconnection and any reasonable alternative Point(s) of Interconnection. The Developer is responsible for the actual cost of the OFES and must provide a \$10,000 or \$60,000 study

deposit, depending on the scope of analyses requested, to NYISO no later than fifteen (15) Business Days after the Developer's receipt of the NYISO's good faith estimate of the study costs. Otherwise, NYISO shall initiate withdrawal of the LFIR under Section 30.3.6 of Attachment X. The OFES scope of work ("OFES Scope") is initially prepared by NYISO following a standard template consistent with Section 30.6.2 of Attachment X. The OFES Scope is reviewed by the Parties. After the OFES Scope is finalized, NYISO will provide the final scope to the Developer and CTO. The CTO shall indicate its agreement to the OFES Scope by signing it and promptly returning it to NYISO, such agreement not to be unreasonably withheld.

After NYISO receives CTO's signature on the OFES Scope and the required modeling data and study deposit from the Developer, NYISO notifies the Parties that the OFES has commenced and the responsible Parties proceed to perform the OFES in accordance with Sections 30.6.2 and 30.6.3 of Attachment X and the OFES Scope. NYISO serves as overall coordinator for the study, including coordination of review of the draft OFES report and associated documentation by the Parties. If applicable, NYISO prepares the initial steady state and short circuit base cases to be used for the OFES following the requirements outlined in Section 30.6.2 of Attachment X and the OFES Scope. Other parties involved in the study that need the steady state and/or short circuit base cases must request the base cases from NYISO following the NYISO CEII request procedures. A CEII Request Form and NDA are available from the NYISO website. Upon completion of all the study tasks contained in the OFES Scope, including review of the draft study report and supporting documentation, NYISO provides the final OFES report to Developer and CTO and schedules a study report meeting with the Developer and CTO per Section 30.6.3.1 of Attachment X. The study report meeting serves the dual purpose of reviewing the final OFES results and discussion of the scope and arrangements for the SRIS. If any electric system(s) other than the CTO's system may be affected by the proposed interconnection (*i.e.*, Affected Systems), NYISO invites the Affected System Operator(s) to the OFES report meeting to participate in the discussion of the SRIS. It is normally this point of the NYISO interconnection process that Affected System Operators, if any, are identified and NYISO shall involve the Affected System Operators as required by the Large Facility Interconnect Procedures.

3.3.3.4. Interconnection System Reliability Impact Study (SRIS)

The purpose and objectives of the SRIS are to evaluate the reliability impact of the specific project under study (unless it is part of a clustered study) on the pre-existing electric system. If the OFES was performed, the SRIS will re-evaluate and revise as necessary the list of CTOAFs and any SUFs identified in the OFES, and re-evaluate and revise as necessary the non-binding good faith estimates of the cost and time to construct the required facilities. If the OFES was not performed, the SRIS would be the first study for the project and would include the development of the conceptual design for the proposed interconnection if such design was not previously specified by the Developer, as well as identifying necessary CTOAFs and

SUFs and providing the non-binding good faith estimates of the cost and time to construct the required facilities.

The process for performing the SRIS is outlined in Section 30.7 of Attachment X. The basic steps are:

- Preparation, review and OC approval of the study scope of work (“SRIS Scope”);
- Performance of the study, including completion of all required tasks and review of the study report and documentation by the Parties and any Affected System Operators;
- The study report meeting between the Parties (NYISO, CTO, and Developer) and any Affected System Operators;
- Presentation of the SRIS report to the TPAS for review, followed by presentation of the SRIS report to the OC for approval.

Within five (5) Business Days after either the delivery of the final OFES report to the Developer or the Scoping Meeting, if the Developer opts to forego the OFES, the Developer must advise NYISO that it wishes to proceed to the SRIS. Unlike the OFES in which usually the three Parties are involved, the SRIS also involves any Affected System Operators and the NYISO committees (TPAS and the OC).³ OC review and approval of the SRIS satisfies the requirements of Section 18.02 of the ISO Agreement.

Only one POI may be evaluated in the SRIS. If one or more alternative POI(s) were evaluated in the OFES, the Developer must specify which POI is to be evaluated in the SRIS. If the Developer wishes to evaluate alternative POI(s) at the SRIS step of the interconnection process, the Developer may request a reasonable number of Optional Interconnection System Reliability Impact Studies (OSRISs) to be performed concurrently with the SRIS per Section 30.10 of Attachment X (*see* Section [3.3.3.5](#) below).

Under Section 30.7.3 of Attachment X, the SRIS is an evaluation of the impact of the project and its proposed interconnection on the pre-existing electric power system. The assessments performed in the SRIS are more extensive than the OFES. The SRIS includes short-circuit analysis, local steady state analysis (similar to, but generally more extensive than the OFES), and local stability analysis (not included in the OFES). If there is a reasonable potential that additional analysis could identify System Upgrade Facilities, the NYISO will perform limited thermal transfer, voltage transfer or stability transfer analysis for internal interfaces.

³ Identified Affected Transmission Owner(s) of facilities electrically adjacent to the Point of Interconnection and that have design criteria, operational criteria or other local planning criteria applicable to either (1) the substation to which the Developer proposes to interconnect; or (2) the substation that will be required to be built to accommodate the interconnection, are provided with the opportunity to review and provide comments on all study scopes, study reports and drafts thereof for the project, and will be included on communications regarding the project and meetings discussing the project or any of its studies, where such communications or meetings involve NYISO, Developer and CTO.

Like the OFES, the SRIS focuses on the evaluation of ERIS. However, for interconnection requests that request CRIS for the Large Facility, the SRIS will also include a preliminary, non-binding deliverability evaluation of CRIS that evaluates the project under the NYISO's Deliverability Interconnection Standard and that feeds the full deliverability evaluation in the Class Year Study (*see* Section [3.3.3.6](#) below). In the SRIS preliminary, non-binding deliverability evaluation, NYISO will state the assumptions underlying the result, as well as a conceptual System Deliverability Upgrade ("SDU") and associated preliminary, non-binding cost estimate for the SDU, if the facility is not deliverable for its full amount of requested CRIS.

The Developer is responsible for the actual cost of the SRIS and must provide a \$120,000 study deposit to NYISO no later than fifteen (15) Business Days after Developer's receipt of the NYISO's good faith estimate of the study costs. Otherwise, NYISO initiates withdrawal of the LFIR under Section 30.3.6 of Attachment X. NYISO reviews the documentation of Site Control (if not previously provided) and required technical data provided by the Developer and may initiate withdrawal of the LFIR if the documentation or required technical data is not adequate.

The SRIS Scope is initially prepared by NYISO following a standard template consistent with Section 30.7.3 of Attachment X, and reviewed by the Parties (NYISO, Developer, CTO(s) and any Affected System Operators). After the SRIS scope is finalized, NYISO will provide the final scope to the CTO(s). The CTO(s) shall indicate its agreement to the scope of the SRIS by signing it and promptly returning it to NYISO, such agreement not to be unreasonably withheld. After NYISO receives the CTO's signature, indicating its agreement, the SRIS scope is reviewed by TPAS, and reviewed and approved by the OC.

After NYISO receives CTO's signature and the OC approves the SRIS Scope and the NYISO confirms receipt of the required technical data, Site Control (if not previously provided), and study deposit from the Developer, NYISO notifies the Parties that the SRIS has commenced and the responsible Parties proceed to perform the SRIS in accordance with Sections 30.7.3 and 30.7.4 of Attachment X and the approved SRIS Scope. NYISO serves as the overall coordinator for the study, including coordination of review of the draft SRIS report and associated documentation provided by the Parties and any Affected System Operators. NYISO prepares the initial steady state, short circuit and dynamic base cases to be used for the SRIS following the requirements outlined in Section 30.7.3 of Attachment X and the SRIS Scope. Other parties involved in the study that need the steady state, short circuit and/or dynamic base cases must request the base cases from NYISO following the NYISO CEII request procedures. A CEII Request Form and NDA are available from the NYISO's website and can be accessed via the Interconnection Projects portion of the NYISO website. Upon completion of all the study tasks, including initial review of the draft study report and

documentation, NYISO provides the draft SRIS report to the Developer and CTO and schedules a study report meeting with the Developer and CTO per Section 30.7.5 of Attachment X.

Following the study report meeting, NYISO arranges for submittal of the SRIS report to TPAS for review and consideration for recommendation for OC approval. Submittal of the final draft SRIS report to TPAS must occur within three months of the NYISO's issuance of the final draft, otherwise the Interconnection Request will be withdrawn. If the SRIS was not performed by NYISO staff, NYISO staff prepares and submits a "NYISO Review Report" to accompany the SRIS report, to summarize NYISO staff's review and conclusions regarding the SRIS. If one or more OSRISs were performed concurrently with the SRIS, the Developer must designate which of the SRIS and/or OSRIS(s) to submit to TPAS, and TPAS will review and consider each submitted SRIS or OSRIS separately on its own merit.

Following TPAS review, NYISO arranges for submittal of the SRIS report to the next OC for consideration for approval. If one or more OSRISs were performed concurrently with the SRIS, the Developer must designate which study (SRIS or OSRIS) to submit to the OC as "the SRIS" that the Developer wishes to have reviewed—the OC does not approve alternative interconnection studies for the same project. Upon OC approval of the SRIS, the SRIS for that project is considered to be completed.

3.3.3.5. Optional Interconnection System Reliability Impact Study (if requested)

As indicated above, a Developer may request an OSRIS (or a reasonable number of OSRISs) to be performed concurrently with the Developer's SRIS in accordance with Section 30.10 of Attachment X. The concept of an OSRIS is to provide a mechanism for the Developer to continue to consider and evaluate an alternative POI during the SRIS stage of the interconnection process.

The Developer may submit an OSRIS request on or before the later of OC approval of the SRIS scope or NYISO's receipt of agreement from the CTO(s) of the SRIS scope. NYISO will not accept an OSRIS request after the SRIS has begun.

Each OSRIS is considered a separate study, scope, and deposit. The OSRIS is performed in conjunction with, and as a sensitivity to, the SRIS. The OSRIS essentially follows the same procedural steps as the SRIS up to submittal of the study report to the OC for approval. As stated above, following TPAS review of the SRIS and/or OSRIS(s) performed for a project, the Developer must designate which study (SRIS or OSRIS) to submit to the OC as "the SRIS" that the Developer wishes to have reviewed.

3.3.3.6. Interconnection Facilities Study (Class Year Study)

After completion of the SRIS, the next step is the Facilities Study, which is performed under the umbrella of the NYISO Class Year Interconnection Facilities Study (Class Year Study) process described in Section 30.8 of Attachment X and Attachment S to the NYISO OATT. The Class Year Study is conducted for a

set of projects that have met the eligibility requirements for entry into a Class Year, as discussed in more details in Section 3.3.3.6.2 below. As a result, NYISO conducts only one Class Year Study at a time and will commence on a Class Year Start Date, as further discussed in Section 3.3.3.6.1 of this manual.

Prior to the start of a new Class Year Study, the NYISO will provide notice of an upcoming Class Year Start Date. Developers seeking to enter their projects into the Class Year Study will need to provide notice to the NYISO and satisfy certain eligibility requirements, as discussed in more details in Section 3.3.3.6.2 below. Following the NYISO's confirmation that a project satisfies the required eligibility requirements, the NYISO will tender a Class Year Study Agreement to the Developer to complete and return unexecuted (*i.e.*, without signatures) to the NYISO within ten (10) Business Days, together with the required deposit(s), required technical data, and a demonstration of a qualifying contract, if applicable. Following confirmation that the Class Year Study Agreement, the required technical data, the required deposits, and a qualifying contract (if applicable) are complete, the parties will then be notified to execute the Class Year Study Agreement, which must be accomplished within ten (10) Business Days.

Even before the Class Year Start Date, a project that has met the eligibility requirements above may request a Class Year Study Agreement and start its Part 1 study prior to the commencement of the Class Year Study. Commencing the Part 1 study prior to the Class Year Start Date will afford a Developer insight into the potential costs of its Attachment Facilities and System Upgrade Facilities. Upon completion of the Part 1 study, a project may proceed with negotiating its interconnection agreement at its election.

The Class Year process includes the Class Year Deliverability Study (CYDS) and an Additional SDU Study (if applicable) that evaluates the deliverability of requested Capacity Resource Interconnection Service (CRIS) for Class Year Projects. Besides projects going through the full Interconnection study process, other CRIS requests may be evaluated in the CYDS that otherwise are not required to undergo interconnection studies. These projects are commonly referred to as "CRIS only" projects. Such CRIS requests include:

- Evaluation of deliverability of projects that previously received ERIS but not CRIS (reference various Sections of Attachment S to the NYISO OATT, *e.g.*, Section 25.8.2.3 of Attachment S);
- Retest of deliverability of projects that previously accepted their cost allocation for a Highway SDU, but wish re-evaluation of the need for the SDU if construction has not started pursuant to Section 25.7.12.4 of Attachment S;
- Evaluation of proposed transfers of deliverability rights between different locations pursuant to Section 25.9.5 of Attachment S;
- Evaluation of requested External CRIS Rights pursuant to Section 25.7.11.1.4 of Attachment S;
- Facilities greater than 2 MW that seek to obtain or increase CRIS beyond the levels permitted by Attachment S, Section 30.3.2.6 of Attachment X and Section 32.4.10.1 of Attachment Z, as applicable (*see also* Section 25.1.1 of Attachment S).

Additional SDU Studies are deliverability studies for Class Year Projects that require a new SDU requiring additional study. While they are considered to be a part of the Class Year Study process, an Additional SDU Study is separate and apart from a Class Year Deliverability Study. A new SDU is one that has not previously been identified and cost allocated in a Class Year Study and not substantially similar to a SDU previously identified and cost allocated in a Class Year Study. Additional SDU Studies are discussed in Section 3.3.3.7 below.

3.3.3.6.1. Class Year Study Cycles

Unlike Optional Feasibility Studies and SRISs that are normally performed for projects individually as described above, Class Year Studies are performed in cycles for a group of projects (Class Year Projects) in accordance with Attachment S to the NYISO OATT. Under Attachment S, a new Class Year Study begins on the first eligible Class Year Start Date after the previous Class Year Study has concluded. The eligible Class Year Start Date will be the first Business Day after thirty (30) Calendar Days following the completion of the prior Class Year Study. Thus, the Class Year Study process does not follow a calendar-year schedule, but rather proceeds on a schedule that includes uncertainties related to circumstances and decision points that are part of the process as described in Attachment S and below.

A given Class Year Study is expected to take about twelve (12) months from the Class Year Start Date to present the Class Year Study to the OC. Then, it normally takes two (2) months after OC approval of the Class Year Study to complete the final decision and settlement step of the process, but the timing depends on the number of iterations that occur to finalize this step, the timing of which is driven by Developers' decisions (and compliance with Security posting requirements) in the Class Year Study decision rounds. A given Class Year Study is considered completed when all of the Class Year Projects (or remaining Class Year Projects) have accepted their respective cost allocations and either paid for or posted security for their SUF and SDU cost allocations, as applicable, in accordance with the requirements of Attachment S. Including the final decision and settlement step, the expected timeframe to complete the Class Year Study process is about 14 months. These timeframes are expectations based on the Reasonable Efforts of the NYISO and the other parties involved in performing various aspects of the Class Year Study.

Therefore, for any given project, the expected timeframe for completion of its facilities study depends on a number of factors including, but not limited to: its expectation to satisfy the eligibility requirements to enter a Class Year, the status of the current Class Year Study at the time the project expects to satisfy the Class Year eligibility requirements, the circumstances of the particular Class Year Study that the project expects to enter, whether the requested level of CRIS for a project requires a new SDU that necessitates an Additional SDU Study, and whether the project enters and completes (accepts its cost allocation(s)) the first

Class Year Study for which it is eligible, or elects to undergo a later Class Year Study as permitted under Attachment S.

3.3.3.6.2. Class Year Eligibility Requirements

The Class Year eligibility requirements for Large Facilities are defined in Section 25.6.2.3 (and associated subsections) of Attachment S.

Large Facility projects must meet two milestones to be eligible to be included in a Class Year Study: (i) OC approval of its SRIS and (ii) satisfaction of an applicable regulatory milestone in accordance with Section 25.6.2.3.1 of Attachment S. In lieu of demonstrating that a Large Facility project has satisfied a regulatory milestone by the Class Year Start Date, the Developer can provide a qualifying contract set forth in Section 25.6.2.3.1.1 of Attachment S or submit two-part deposit in lieu of satisfying an applicable regulatory milestone, consisting of \$100,000 (at risk deposit, only refundable if project satisfies its regulatory milestone within 12 months of the Class Year Start Date or the OC's approval of the Class Year Study, whichever occurs first) and \$3,000/MW (fully refundable deposit as set forth in Section 25.6.2.3.1 of Attachment S). Importantly, use of a qualifying contract or a deposit in lieu of satisfying a regulatory milestone is not considered satisfaction of the requirement for future steps in the LFIP.

Under Attachment S, a Large Facility may enter up to two of the next three Class Years following OC approval of its SRIS subject to the additional requirement that, for any of these Class Years that the project wishes to enter, the applicable regulatory milestone (if any) has been satisfied or the project has a qualifying contract under Section 25.6.2.3.1.1 of Attachment S or pays a two-part deposit in lieu of satisfying the regulatory milestone requirement. A Large Facility project that fails to enter and complete one of the three Class Years after OC approval of its SRIS is subject to withdrawal of its Interconnection Request in accordance with Section 30.3.6 of Attachment X to the NYISO OATT (*see* Section 25.6.2.3 and associated subsections of Attachment S for additional details and requirements related to the regulatory milestones and required notices to NYISO once a project has an SRIS approved by the OC). If a Developer elects to enter its Large Facility project in a Class Year Study but retracts its election prior to the NYISO's tender of a Class Year Study Agreement for the Developer to complete, the Large Facility project will not become a member of the Class Year Study but will have two remaining opportunities to enter a future Class Year Study. If the Developer retracts its election or fails to complete the Class Year Study Agreement or provide any of the required deposits or technical data after the Class Year Study Agreement is provided to the Developer to complete, the Large Facility project will not become a member of the Class Year Study and such retraction will count as its one of two Class Year Studies that the Large Facility project is permitted to enter.

3.3.3.6.3. Basic Steps of the Facilities Study

For each project in the Class Year Study, the basic steps of the Class Year Study process, as outlined in Section 30.8 of Attachment X, are as follows:

- Preparation and execution of the Class Year Study Agreement (CYSA);⁴
- Performance of the Class Year Study by NYISO and other parties as coordinated by NYISO in accordance with Section 30.8.3 of Attachment X and the procedures set forth in Attachment S;
- Presentation of preliminary Class Year Deliverability Study results to TPAS/IPFSWG;
- Presentation of preliminary Class Year Deliverability Study results to Operating Committee for approval;
- Notice of SDUs Requiring Additional Study and elections by the affected Class Year Projects (if applicable);
- Study report meetings among NYISO, CTO(s), Affected Transmission Owner(s), Affected System Operator(s), and the Developer to review the study results for each Class Year Project;
- Presentation of the full Class Year Study report to the TPAS and IPFSWG for review, followed by presentation of the Class Year Study report to the OC for approval;
-
- Class Year decision and settlement process;
- Confirmation of Developers' payments or Security postings for accepted system upgrade cost allocations.

Relying in part on the results of the individual SRIS performed for each of the Class Year Projects, the Class Year Study is a more detailed evaluation and identification of all CTOAFs and SUFs that would be required for the reliable interconnection of the Class Year Projects, along with estimates of the cost and time for procurement, construction, and installation of those facilities. And, beginning with Class Year 2007, the Class Year Study includes evaluation of the deliverability of proposed capacity for those Class Year Projects requesting CRIS and any SDUs that would be required to make that proposed capacity fully deliverable. If not performed in the SRIS, the Class Year Study shall include required "special studies" (*e.g.*, Electro-Magnetic Transients (EMT) study, Sub-Synchronous Resonance (SSR) study, etc.) as considered appropriate at the Class Year Study stage for the type and circumstances of the Class Year Project and its interconnection to the system. To the extent the NYISO or CTO(s) determine, in accordance with Good Utility Practice, that such studies need to be performed after the Class Year Study, the Developer will be

⁴ Following tender of the Class Year Study Agreement (FSA), the Developer has ten (10) Calendar Days to complete it and return it unexecuted to NYISO along with the required technical data, deposits, and any qualifying contracts (if applicable); otherwise, the Large Facility project may not be eligible to enter that Class Year. However, for an Interconnection Request seeking CRIS only for a small generator with a pending Interconnection Request in the SGIP, such Developer's failure to execute the Facilities Study Agreement within thirty (30) Calendar Days will not result in withdrawal of the small generator's Interconnection Request under the SGIP. However, the Interconnection Customer will be required to request tendering of a Facilities Study Agreement for CRIS only in accordance with the procedures under the LFIP.

responsible for the study costs for such studies and any upgrade costs resulting from such studies, to the extent consistent with Attachment S to the NYISO OATT.

The Class Year Study actually consists of several separate studies grouped into two general “Parts” as follows:

“Part 1 Studies”: The Class Year Study includes a Part 1 study for each project participating in the Class Year for ERIS to identify the CTOAFs and Local SUFs involved in the direct connection of the Project to the pre-existing electric system. The Local SUFs addressed in a Part 1 Study include new transmission facilities that may be required, such as a new 3-breaker ring bus to connect into an existing line, and system protection and communication SUFs. These Part 1 studies are generally performed independently of each other. Each study is specific to the Class Year Project and includes a design and preliminary engineering of the identified CTOAFs and Local SUFs and estimates of the cost and time to construct those facilities.

NYISO seeks the assistance of the CTO(s) for much of the Part 1 studies. Consultants may be used for some or all of the work as well.

“Part 2 Studies”: The Class Year Study Part 2 studies include the Annual Transmission Baseline Assessment (ATBA), the Annual Transmission Reliability Assessment (ATRA), and the Class Year Deliverability Study. The ATBA evaluates the pre-existing baseline system before the Class Year Projects are included and identifies any SUFs and associated cost estimates for that system. The ATRA evaluates the condition with the Class Year Projects added to the baseline system, identifies the SUFs required for the Class Year Projects collectively, and then performs a design, preliminary engineering, and estimation of cost and time to construct for each SUF. The ATRA addresses all SUFs required for the Class Year Projects, including SUFs identified in the Part 1 studies. The ATBA and ATRA determine the “cost allocation” of the SUFs between the TOs and the Class Year Project Developers, and the ATRA determines the cost allocation among the Class Year Developers in accordance with Attachment S (these assessments are performed under the Minimum Interconnection Standard).

The Class Year Deliverability Study (CYDS) evaluates the deliverability of CRIS requested by the Developers for the Class Year Projects (including any CRIS only projects), determines the amount of requested CRIS that would be deliverable without SDUs, if any, and identifies the SDUs that would be required to make the requested CRIS fully deliverable. If the NYISO identifies a SDU for a Class Year Project or group of Class Year Projects that is “new”—*i.e.*, not previously studied and cost allocated in a Class Year Study and not substantially similar to a SDU previously studied and cost allocated in a Class Year Study, the NYISO will separately notify the TPAS/IPFSWG and the individual Developers of the affected Class Year Projects that an Additional SDU Study is required (*see* Section 25.7.7.1 of Attachment S to the NYISO OATT).

Developers not electing to pursue further study of the identified SDU in an Additional SDU Study can continue in the Class Year Study but will be limited to accepting or rejecting their Project Cost Allocations for SUFs and the number of Deliverable MWs, if any, that were determined to be deliverable through the CYDS without the need for an SDU.

For each SDU identified that does not require an Additional SDU Study, the deliverability evaluation in the Class Year Study is performed to finalize a design and cost estimate for the SDU. Similar to the ATBA and ATRA performed to determine the cost allocation for SUFs, the CYDS includes an ATBA-D and ATRA-D that are used to determine the cost allocation for SDUs to and among the Class Year Projects in accordance with Attachment S (these assessments are performed under the Deliverability Interconnection Standard). Section 3.6.5 below and Section 25.7 of Attachment S to the NYISO OATT provide further information on the deliverability study methodology.

NYISO conducts most of the analyses for the Part 2 studies, but may use one or more consultants to perform portions of those studies. NYISO will also review and incorporate the results of additional studies performed by CTOs, Affected Transmission Owners, and Affected System Operators when such studies are appropriate to evaluate the Class Year Projects' potential impacts. For studies conducted by Affected System Operators, the Part 2 studies will include the results to the extent they are available.

The major steps of the Class Year Study include:

1. Preparation of Base Cases for the ATBA and ATRA – NYISO requests updates of information from the TOs, neighboring ISOs/RTOs, and Developers and prepares steady state, dynamic, and short circuit base cases for the ATBA and ATRA. In doing so, NYISO prepares data for modeling each of the Class Year Projects to be used in the studies.
2. Part 1 Studies – NYISO identifies, designs and preliminary engineers the CTOAFs and Local SUFs and their integration with the Developer's proposed facilities and with the existing system for each Class Year Project. NYISO also estimates the cost and time to construct the CTOAFs and Local SUFs for each project. As discussed above, the Part 1 study for an individual project may begin in advance of the Class Year Start Date.
3. Re-evaluation and Identification of SUFs (ATBA, ATRA) under MIS – This step involves reviewing the individual SRISs for the Class Year Projects and conducting thermal, voltage, stability, and short circuit analyses, as necessary and appropriate, to re-evaluate the collective impact of the Class Year Projects, to re-evaluate the need and adequacy of any previously identified SUFs, and

to make any necessary adjustments for the final identification and specification of SUFs needed for the Class Year Projects.

4. Development of cost allocation and time estimates for SUFs – This task entails engineering and estimations of the cost and time to construct each of the SUFs identified in the previous steps. NYISO uses information from the Part 1 studies as applicable.
5. Deliverability Study and Notice of SDUs Requiring Additional Study (if required) – NYISO identifies SDUs under DIS as described in Section 3.6.4 below. If NYISO determines that an identified SDU for a Class Year Project or group of Class Year Projects is “new,” NYISO will issue a Notice of SDUs Requiring Additional Study to stakeholders of the IPGSWG and a separate notice to the Developers of the Class Year Project(s) that require the SDU(s) necessitating Additional SDU Study(ies) as soon as practical after identifying the SDU(s). Each Developer of a Class Year Project that receives a notice must respond to NYISO within ten (10) calendar days to elect, among other things, to proceed or not proceed with an Additional SDU Study. If a Developer does not elect to proceed with an Additional SDU Study, then it can continue with the Class Year Study but will be limited to accepting its CRIS based on the deliverable MWs, if any, from the Class Year Deliverability Study. If a Developer elects to proceed with the Additional SDU Study, the study would proceed separate and apart from the Class Year Study as described in Section 3.3.3.7 below. A Developer that fails to notify NYISO within ten (10) calendar days will be deemed to have elected not to proceed with an Additional SDU Study and can remain in the Class Year Study for purposes of accepting its SUF cost allocation and deliverable MWs from the Class Year Deliverability Study, if any.
6. Compilation of study results and preparation of draft Class Year Study Report – NYISO has overall responsibility for the Class Year Study Report and provision of the report to the Developers of Class Year Projects and other parties as appropriate. NYISO expects the CTOs or consultants to prepare reports or portions of the Class Year Study Report for which they had contractual responsibility. The SUFs identified via ATRA and ATBA and the SUFs summary from the individual Part 1 studies are documented in a “Class Year Study Report.” The SDUs identified via ATRA-D and ATBA-D are documented in the final Class Year Study Report. If an Additional SDU Study completes prior to OC approval of the draft Class Year Study Report, the results of the Additional SDU Study will be incorporated into the final Class Year Study Report (or prepared as an addendum). Both reports, along with the supporting appendices or addendums, will be reviewed and approved through the TPAS/IPFSWG and OC review and approval process.

7. Review and Approval – This step includes the following sub-steps:
 - a. NYISO schedules a Report Meeting with the IPFSWG (group formed at the beginning of each class, by invitation sent to TPAS and OC members, comprised of Class Developers, CTOs, and other interested parties), to be held within ten (10) Business Days (approximately 2 weeks) of distribution of the applicable draft Class Year Study reports.
 - b. After the Report Meeting, NYISO submits the draft Class Year Study reports to TPAS/IPFSWG for review and action at its next meeting.
 - c. As soon as possible after the TPAS meeting, NYISO submits the draft Class Year Study reports to the OC for approval.
8. Decision Period and Cost Settlement – After the OC approval of the Class Year Study Report, the process enters a 30 calendar day initial decision period during which the Class Year Developers are given the choice to accept or reject their respective cost allocation for SUFs and separately, cost responsibility for any SDUs as summarized in the Class Year Study Report or applicable addendum. Developers that accept their cost allocation for SUFs must provide a confirmed In-Service Date and Commercial Operation Date for their project to NYISO subject to the limitations set forth in Section 30.4.4.5 of Attachment X to the NYISO OATT. If any Developers reject their cost allocation for SUFs, the associated projects are removed from the Class Year. Any Developers that accept their cost allocation for SUFs but reject their cost responsibility for SDUs, remain in the Class Year but would be only eligible for partial CRIS up to the amount determined to be deliverable, if any. If necessary, NYISO re-evaluates the SUFs (and re-evaluates deliverability and associated SDUs as necessary) for the remaining Class Year Projects, makes any necessary adjustments, and issues a revised Class Year Study Round “n” Addendum Report (where “n” is the number of iterations until all remaining Class Developers accept SUF cost allocation) following the schedule set forth in Attachment S.

The Class Year Study is considered complete once (i) the Class Year Study Report has been completed, (ii) all Developers (or remaining Developers) have accepted their respective cost allocations for SUFs and SDUs, as applicable, or deferred making a decision on their respective cost allocations for SUFs due to a pending Additional SDU Study as presented in the OC-approved Class Year Study report or subsequent Round Addendum Reports, and (iii) paid for or posted security for SUFs and SDUs as applicable.

3.3.3.7. Additional SDU Studies

The evaluation of “new” SDUs requiring Additional SDU Studies is performed separate and apart from the ongoing Class Year Study. Each new SDU that the NYISO identifies will be studied in the Additional SDU